



HUMAN INDUCED REDUCTION IN THE AMERICAN OYSTERCATCHER'S PRE- FLEDGING SUCCESS ON TWO OF VIRGINIA'S BARRIER ISLANDS

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The Study Species in Question



PHOTO BY: NASA EARTH OBSERVATORY

Study site 1:
Assateague Island



PHOTO BY: PATRICK J. HENDRICKSON

Study Site 2:
Assawoman Island



PHOTO BY: LYN BROWN





**HUMANS AREN'T
THE ONLY ONES!**





Does human disturbance affect the pre-fledging success and long-term population viability of the American Oystercatcher on barrier islands in Virginia?

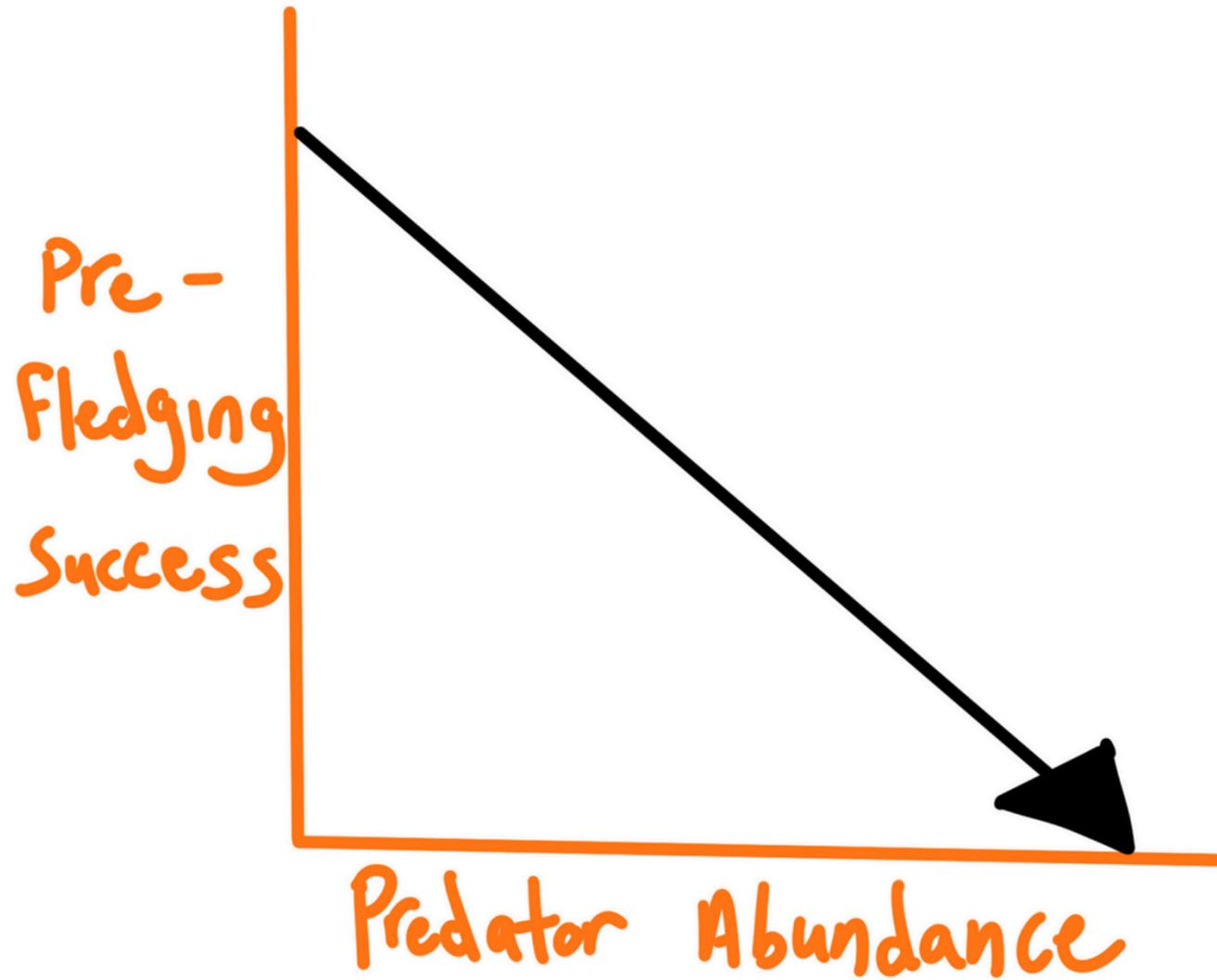
Hypothesis 1 (H1):
Human disturbance
will negatively affect
the pre-fledging
success by increasing
predator abundance

Prediction: If there is higher human disturbance, then there will be lower pre-fledging success because of higher predator abundance

Hypothesis 2 (H2): A human-induced reduction in pre-fledging success will be enough to impact the long-term population viability of the American Oystercatcher on barrier islands in Virginia

Prediction: If pre-fledging success is significantly reduced in human-disturbed areas, then population modelling that incorporates those values and rates will show the population growth decline over time ($\lambda < 1$), indicating reduced viability

METHODS TO H1



Summary Report – 2024 Nesting Season Predator Management to Enhance Avian Recruitment in Virginia

For
United States Fish and Wildlife Service, The Nature Conservancy,
Virginia Department of Wildlife Resources, and National Aeronautics
& Space Administration



United States Department of Agriculture
Animal and Plant Health Inspection Service
Wildlife Services
PO Box 130
Moseley, VA 23120

Brian Scharle, Wildlife Biologist
August 14, 2024

METHODS TO H2

Stage - Structured Projection Matrix

$$\begin{bmatrix} P_1 & F_2 & F_3 & F_4 \\ G_1 & P_2 & 0 & 0 \\ 0 & G_2 & P_3 & 0 \\ 0 & 0 & G_3 & P_4 \end{bmatrix}$$

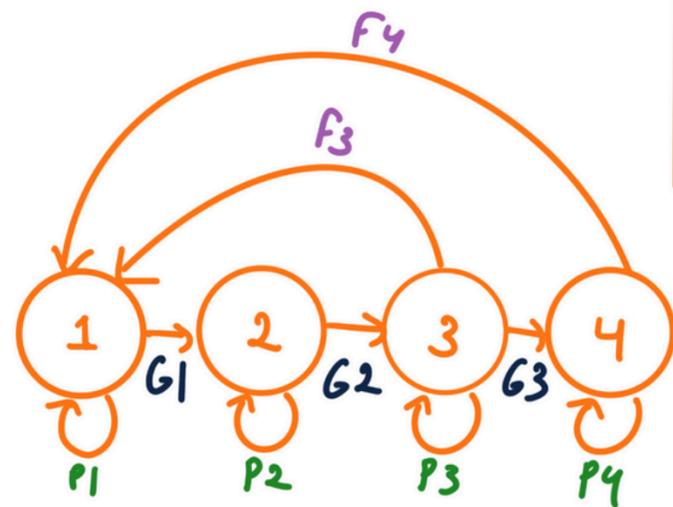


Table 5. Elasticity values for matrix elements under baseline conditions (see Table 1).

Stage	Immature	Sub-adult	Adult
Immature	0	0	0.042
Sub-adult	0.042	0.170	0
Adult	0	0.042	0.704

Thank You!

